

Appl. No. 09/773,246
Reply to Office action of July 15, 2004
Atty. Docket No. AP566US

REMARKS

Referring to paragraph 1 of the office action, the examiner's objection to claim 1 has been met by changing the "plurality of nodes" to read the "plurality of slave nodes" as suggested by the examiner.

Also in claim 1, the duplicate numbering of step (iii) has been corrected by renumbering the second occurrence as step (iv) and subsequent steps renumbered as appropriate. The letter "n" has been capitalized for consistency with the description where "N" refers to the number of nodes and "n" refers to the number of pulses as disclosed in the paragraph beginning on page 9 at line 30.

Claim 7 has been amended, as suggested by the examiner, by changing all limitations to recite "propagation channels". In addition, two occurrences of the word 'slave' have been added to eliminate any ambiguities between the master node and the slave nodes. The letter "n" has been capitalised where appropriate as in the amended claim 1.

In the specification, appropriate amendments have been made to align the statement of invention with the amendments made to claims 1 and 7.

The paragraph beginning on page 12 at line 3 has been amended to correct a typographical error. The reference character "NZ" has been changed to "N2" to match the element designation in Figure 3 of the drawings.

In the abstract, the letter "n" has been capitalized where appropriate as in the amended claim 1.

In paragraph 5 of the office action, claim 18 was rejected by the examiner under 35 USC 103(a) as being unpatentable over Geannopoulos *et al* (US patent No. 6,075,832). This rejection is respectfully traversed.

Claim 18 defines apparatus in which two pulse trains traverse a detection point in opposite directions with a first pre-delay means and first post-delay means disposed prior to, and following, respectively, the detection point in a first propagation channel whereby pulses of the first train traverse the detection point. Claim 18 also specifies a second pre-delay means and second post-delay means disposed prior to, and following, respectively, the detection point in a second propagation channel whereby pulses of the second train traverse the detection point.

The examiner stated that Geannopoulos *et al* disclose two pulse trains traversing a detection point in opposite directions and a first pre-delay and a first post-delay (400a and 400b in Fig. 2) prior to and following, respectively, the detection point. He then asserted that it would be obvious to duplicate the pre- and post-delays in a second propagation path.

With respect, the examiner erred in his interpretation of Geannopoulos *et al*'s disclosure. Geannopoulos *et al* do not have any post-delays in their propagation paths. Their pulses arrive at the detection point 100 but do not traverse the detection point. Since they do not traverse the detection point, both delays 400a and 400b are pre-delays. There are no post-delays and the pulses cannot be

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delayed after they have traversed the detection point 100.

Geannopoulos *et al.* simply use an incoming clock signal XCLK5 to clock two spine clocks 30 and 40 to distribute replicas of the clock signal via core 60. They use a symmetrical circuit, each half comprising a spine clock and a delay. In order to compensate for differences between the two spine clocks, they insert delays 400a and 400b in the paths between the PLL 10 and the detection point 100. They take sample clock signals from the spine clocks 30 and 40, detect phase differences between them, and, via controller 200, adjust the delays 400a and 400b to synchronize the distributed clock signals supplied by the two spine clocks 30 and 40. While the sample clock pulses arrive at the detection point 100 from opposite directions, they do not propagate any further, so there is no reason to provide a post-delay following the detection point, on either side.

It follows that the examiner's suggestion that a skilled person would be motivated to provide a second propagation path and duplicate the pre-delays and post-delays is without merit. Since there are no post-delays, duplication of the propagation path would simply introduce unnecessary redundancy and associated expense without justification. Consequently, a skilled person would not be motivated to make the modification.

Accordingly, it is submitted that claim 18 is patentable over Geannopoulos *et al.* It is noted that the examiner has already allowed claims 1-17.

The references cited on page 5 of the office action, but not applied, have been considered but are not deemed so pertinent as to affect patentability of the present invention.

In view of the foregoing, it is submitted that all claims of record are patentable over the cited references and early and favourable reconsideration of the application is respectfully requested.

Respectfully submitted,

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Date


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